

Appl. No. 10/631,082  
Reply to Office action of 06/30/2005

a reference mask, patterning the semiconductor material with the mask as the inspection item, inspecting both patterns on the semiconductor material, and comparing the pattern generated by the inspection item mask to the pattern generated by the reference mask. Burdorf teaches a method of inspecting a mask. However, Burdorf teaches comparing an aerial image of a mask with a reference image rather than patterning a semiconductor material, much less patterning the semiconductor material with a reference mask and patterning the semiconductor material with the mask to be inspected. Burdorf does not use a reference mask at all, but rather uses a simulated image to compare to an aerial image of the mask to be inspected. Burdorf does not disclose or suggest patterning a semiconductor material at all as part of its inspection method. Accordingly, Applicant respectfully submits that claim 1 and the claims dependent thereon are unanticipated by Burdorf.

The dependent claims are further unanticipated by Burdorf. Burdorf fails to teach: patterning the semiconductor material by the mask lithographically (claim 2); one or more semiconductor wafers are multiply patterned by the reference mask and by the inspection item mask, the patterns generated by the reference mask are compared to the patterns generated by the inspection item mask in pairs, recurrent discrepancies between the two patterns compared are detected and deviations in the inspection item mask from the reference mask being established from the recurrent discrepancies (claim 3); wherein patterning by the reference reticule and by the inspection item reticule is done side-by-side on a single wafer (claim 5); wherein the patterns of the reference reticule and of the inspection item reticule are arranged alternatingly side-by-side in columns on the wafer (claim 6); wherein two patterns located side-by-side on the wafer are each compared in sequence (claim 7); wherein three patterns located side-by-side on the wafer are each compared in sequence (claim 8); wherein the inspection item mask features an intentional change as compared to the reference mask (claim 9); wherein the pattern of the inspection item mask is increased or reduced in size as compared to the pattern of the reference mask (claim 10); wherein the pattern of the inspection item mask is reduced in size by 0.1  $\mu$ m as compared to the pattern of the

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reference mask (claim 11); and wherein the apparatus suitable for inspecting semiconductor material generates a digitized image of a portion of a wafer (claim 12); .

In light of the above, Applicant respectfully requests withdrawal of the Examiner's rejections and allowance of claims 1-14. If the Examiner has any questions or other correspondence regarding this application, Applicant requests that the Examiner contact Applicant's attorney at the below listed telephone number and address.

Respectfully submitted,



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